

What is claimed is:

1. A bearing device with a sensor, comprising a bearing part including an outer member having a raceway defined in an inner periphery thereof, an inner member having a raceway confronting the raceway in the outer member, and rolling elements interposed between those raceways, and a revolution sensor part including an encoder, fitted to one end of the inner member, and a sensor fitted to one end of the outer member in face-to-face relation with the encoder,

wherein there is provided a sensor mounting member having a mounting tube part mountable on an outer diametric surface of the outer member and a side plate part axially positioned in contact with an end face of the outer member, the side plate part of the sensor mounting member being provided with a recessed plate section, which has an inner surface side recessed, and an opposite plate part confronting a bottom surface portion of the recessed plate section, the sensor being fitted sandwiched between the bottom surface portion of the recessed plate section and the opposite plate part.

2. The bearing device with the sensor as claimed in Claim 1, wherein the sensor mounting member comprises inner and outer plates prepared from two sheet metals and overlapped one inside the other, the recessed plate section being provided in the outer plate, the opposite plate part being provided in the inner plate.

3. The bearing device with the sensor as claimed in Claim 1, wherein the recessed plate section and the opposite plate part of the sensor mounting member have respective sensor fitting openings for allowing the sensor to pass therethrough from outside to inside, the sensor having a protruding part, which protrudes towards a portion or whole of an perimeter of each of the sensor fitting openings, the protruding part being sandwiched between the bottom surface portion of the recessed plate section and the opposite plate part.

4. The bearing device with the sensor as claimed in Claim 1, further comprising an elastic element interposed between the bottom plate portion of the recessed plate section or the opposite plate part and the sensor.
5. The bearing device with the sensor as claimed in Claim 4, wherein the elastic element concurrently serves as a seal for sealing between the inner member and the sensor mounting member.
6. The bearing device with the sensor as claimed in Claim 1, wherein the encoder is a magnetic encoder formed with alternating magnetic poles deployed in a circumferential direction and the sensor is a magnetic sensor.
7. The bearing device with the sensor as claimed in Claim 1, wherein the bearing part includes the outer member having a plurality of raceways defined in the inner periphery thereof, the inner member having respective raceways confronting the raceways in the outer member, and a plurality of rows of rolling elements interposed between those opposite raceways, and which is operable to rotatably support a vehicle wheel relative to an automotive vehicle body.